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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,473	06/25/2003	Paul R. Arntson	BING-1-1005	5333
7590	10/01/2004		EXAMINER	
Dale C. Barr, Esq. BLACK LOWE & GRAHAM 816 Second Avenue Seattle, WA 98104			NASH, BRIAN D	
			ART UNIT	PAPER NUMBER
			3721	
DATE MAILED: 10/01/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/606,473	ARNTSON ET AL.
	Examiner	Art Unit
	Brian D Nash	3721

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 12 July 2004.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-76 is/are pending in the application.
4a) Of the above claim(s) 39-76 is/are withdrawn from consideration.
5) Claim(s) _____ is/are allowed.
6) Claim(s) 1-38 is/are rejected.
7) Claim(s) _____ is/are objected to.
8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 17 June 2004 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/25/03.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: ____.

DETAILED ACTION

Examiner's Comments

1. This action is in response to applicant's election received 12 July 2004. Applicant elected, without traverse, Group I, claims 1-38 drawn to an apparatus for performing manufacturing operations on a work piece. Claims 1-76 are still pending while claims 39-76 are withdrawn from consideration. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Drawings

2. The formal drawings received 17 June 2004 have been accepted.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. Examiner suggests removing "AND METHODS" from the title.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3, 6-8, 13, 27, 33, and 36-37 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,468,099 to Wheetley et al. Wheetley et al show the same invention including an apparatus for performing operation on a workpiece (14,16) having a track assembly (20) attachable to the workpiece, a carriage assembly (36) movably coupled to the track assembly and moveable relative to the workpiece and transverse to the track assembly via a drive assembly (40) (see column 2, lines 35-43), a position sensor (130) coupled to the carriage assembly for detecting at least one edge on the workpiece as the sensor is moved over the workpiece (e.g. the seam between 14,16 – see column 3, lines 30-32 and column 4, lines 7-24), one controller (132) mounted on the carriage assembly and another controller (microprocessor 102) in combination with a sensors (100) for coordinating movement of the apparatus through control of the multiple drive assemblies and processing of signals from the sensors, and a tool assembly (116) coupled to the carriage assembly.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 4-5, 14, 18-26, 34-35, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,468,099 to Wheetley et al. As discussed above in this office action, Wheetley et al show the invention substantially as claimed, but do not explicitly disclose the sensor elements to be fiber optic elements. The use of fiber optics for position sensors is well

known in the art and it would have been an obvious matter of design choice for Wheetley et al to incorporate the use of fiber optic sensors in their apparatus. Since applicant has not disclosed that fiber optic sensors solves any stated problem or is for any particular purpose, it appears that the invention would perform equally well with either design choice.

Regarding the controller receiving specific detection signals from the position sensor elements and computing location based on this data, the examiner notes that Wheetley et al disclose the use of sensors in working combination with a master controller, i.e. the microprocessor. The use of microprocessors for receiving signals, processing information, and making computations is well known in the art. Furthermore, the apparatus of Wheetley et al continually processes information, i.e. multiple signals are sent to the microprocessor and multiple location computations are made as the apparatus moves, by itself, across the workpiece seam.

8. Claims 9-12, 15-17, and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,468,099 to Wheetley et al in view of Official Notice. As discussed above in this office action, Wheetley et al show the invention substantially as claimed, but do not disclose the specifics of a “sensing circuit” including for receiving analog input signals and providing digital output signals as well as a gain and level shift of an analog input signal, or a threshold comparator circuit. Official Notice is taken that both the concept and advantages of using threshold comparator circuits in apparatus utilizing sensors and microprocessors are well known and expected in the art. It would have been obvious to have included such elements in the circuit of Wheetley et al since data from the position sensors needs continuous comparing to known values in order to properly guide the apparatus along the workpiece.

9. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,468,099 to Wheetley et al in view of US 6,550,129 to Buttrick. As discussed above in this office action, Wheetley et al show the invention substantially as claimed, but does not mention the controller to include a programmable CNC system for automatically controlling movement of the carriage assembly over the workpiece. Buttrick teaches the use of a programmable CNC system for performing specific operations on a workpiece. It would have been an obvious matter of design choice to use a programmable CNC system for controlling the automatic movement of the carriage assembly over the workpiece since applicant has not disclosed that the CNC system solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with either design choice.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Earle et al, Catania et al, Bratten et al, McCannon, Fuller, Hamalainen, Sarh et al, Dahlstrom et al, and Stoewer et al, and Hazlehurst et al are cited to show related references.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Nash whose telephone number is (703) 305-4959. The examiner can normally be reached on Monday – Thursday from 8 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi I. Rada can be reached at 703 308-2187.

The fax number for this Group is: 703-872-9306

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1148.

Brian D. Nash
28-Sep-04



SCOTT A. SMITH
PRIMARY EXAMINER